

**Image Extensions**

* GIF – Graphics Interchange Format
* JPEG or JPG –Joint Photographic Experts Group
* PNG – Portable Network Graphics
* TIF - Tagged Image File Format Do not use
* BMP – Do not use

**Transparency**

Transparency is important for two reasons. Transparency allows you to create complex layouts by making one image move behind another. Second, you can take advantage of transparency to give an image a non-rectangular outline, adding visual interest to your page. Both GIF and PNG allow transparency. JPEG does not.

**Animation**

Animated pictures can be saved in GIF format. JPEG does not allow animation.

**Monitors**

Monitor effect how the image will be display. The more bits a monitor has the more colors can be used.

24 bit monitors – True color 16,777,216 colors

16 bit monitors – 65,536 colors

8 bit monitors – 256 color

## HTML Images Syntax

In HTML, images are defined with the **<img>** tag. The <img> tag is empty, it contains attributes only, and does not have a closing tag. The **src** attribute defines the url (web address) of the image:

<img src="*url*" alt="*some\_text*">

## The alt Attribute

The **alt** attribute specifies an alternate text for the image, if it cannot be displayed. The value of the alt attribute should describe the image in words:

**Example**

<img src="html5.gif" alt="The official HTML5 Icon">

The alt attribute is **required**. A web page will not validate correctly without it.

**Creating an image in a Web Page**

To put an image in a Web Page, use the <img src =”image.url” /> where the image.url indicates the location of the image file on the server. You may have to use <p> or <br> to start the image on its own line.

Remember that too many pictures slow the download speed. People on average wait 10 seconds before moving on.

**Attributes**

There is an attribute in the <img src = “image.url” border = “#”/> where # represents a number that is the width in pixels. Another attribute is alt = – Replaces the image with text incase the image doesn’t appear. Alt attribute is require in all HTMLs (HTML or XHTML). Another attribute is the title = “Text” is a tool tip in most browsers. When the mouse points on the image a tool tip appears with the text displayed.

**Get a size of an Image**

Right click on image and select “Properties” to get dimension of image in pixels.

**Set the size of images for speedier viewing**

Attributes of the <img> tag. width = “x” & height = “y” where x & y represents your image size. Or use the style attribute used in the example below.

By setting your size in the <img> tag, makes the website download faster. It knows where to put the text before the image is loaded. If the width & height attribute are not present, the text will not be loaded until image is loaded.

**EXAMPLE** using style

<!DOCTYPE html>  
<html>  
<body>  
 <h2>Spectacular Mountains</h2>  
 <img src="pic\_mountain.jpg" alt="Mountain View" style="width:304px;height:228px">  
</body>  
</html>

**Note:** Always specify image size. If the size is unknown, the page will flicker while the image loads.

**Width, Height or Style?**

The width, the height, and the style attributes, are valid in the latest HTML5 standard. We suggest you use the style attribute. It prevents styles sheets from changing the default size of images:

**Example**

<!DOCTYPE html>  
<html>  
<head><style>  
  img { width:100%; }  
</style></head>  
<body>  
<img src="html5.gif" alt="HTML5 Icon" style="width:128px;height:128px">  
<img src="html5.gif" alt="HTML5 Icon" width="128" height="128">  
</body>  
</html>

**Creating Thumbnails Links**

For very large images use thumbnail images which will link to the larger image which must be saved on the server with your html document.

**Example:**

<a href = “image.jpg”> where image.jpg is the location of the full-sized image on your server. Then type the <img src = “mini.jpg” alt = “alternate text”/></a>

<a href = “ “> </a> creates a link which takes you to the address in the “ “.

**Make Images Float**

Using the attribute align, which allows you to wrap text around the image.

**Example:**

<img src = “image.jpg” align = “left”/> text will wrap around the right side of image.

<img src = “image.jpg” align = “right”/> text will wrap around the left side of image.

Image must be place in front of text so the wrap can occur.

**Stop Wrapping**

To stop wrapping text around an image uses the tag <br/>.

**Example:**

<br clear = “left”/> - stop wrapping text on the left side of image.

<br clear = “right”/> - stop wrapping text on the right side of image.

<br clear = “all”/> - stop wrapping text on all floating images.

**Space around an Image**

Image tag has attributes to adjust the horizontal and vertical space around an image. The two attributes found in the <img> tag are hspace = “x” & vspace = “y”.

**Example:**

<img src = “image” hspace = “43” vspace = “43”/>

**Aligning Images with Text**

The align attribute of an image tag <img> can be used to determine where the text appears next to an image during wrapping. Align = “direction” where direction is texttop, absmiddle, or absbottom,

**Example:**

<img src = “image” align = “texttop”/> or <img src = “image” align = “top”/> etc...

## HTML Screen Readers

Screen readers are software programs that can read what is displayed on a screen. Used on the web, screen readers can "reproduce" HTML as text-to-speech, sound icons, or braille output. Screen readers are used by people who are blind, visually impaired, or learning disabled.

**Note:** Screen readers can read the **alt** attribute.

## Images in another Folder

If not specified, the browser expects to find the image in the same folder as the web page. However, it is common on the web, to store images in a sub-folder, and refer to the folder in the image name:

**Example**

<img src="/images/html5.gif" alt="HTML5 Icon" style="width:128px;height:128px">

If a browser cannot find an image, it will display a broken link icon:

**Example**

<img src="wrongname.gif" alt="HTML5 Icon" style="width: 128px; height: 128px">

**Images on another Server**

Some web sites store their images on image servers. Actually, you can access images from any web address in the world:

**Example**

<img src="http://www.WebsiteName.com/images/image.jpg">

**LAB**

**Step 1:** Download two images of Abe Lincoln from the Internet and name them image1.jpg or gif and image2.jpg or gif.

**Step 2:** Create an HTML Document and insert the 4 major tags (html, head,title,body)

**Step 3:** Type the following between the Open & Closed Body tags

<body>  
<h1 align = “center”> Gettysburg Address</h1>

<hr size = “16” width = “90%” align = “center” noshade = “noshade”/>

<p>**Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.**

**Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.**

**<img src = “image1.jpg” width = “150” height = “200” align = “right” alt = “Picture of Abe Lincoln”/>**

**But, in a larger sense, we cannot dedicate -- we cannot consecrate -- we cannot hallow -- this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us -- that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion -- that we here highly resolve that these dead shall not have died in vain -- that this nation, under God, shall have a new birth of freedom -- and that government of the people, by the people, for the people, shall not perish from the earth.**

**<img src = “image2.jpg” width = “150” height = “200” align = “left” vspace = “43” hspace = “43” />**

**Abraham Lincoln  
November 19, 1863**

</p>

</body>

**Step 4:** Save as Labchp5.html

**Step 5:** View in several browsers

**QUESTIONS:**

1. What affect did the attribute noshade have a horizontal line?
2. What is the difference between using a number or a percent with the attribute width of the tag <HR>?
3. How can you speed up image viewing?
4. Did the text wrap around the images?

**PART 2 Using an Image as a Link**

It is common to use images as links:

**Example**

<a href="default.asp">  
  <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0">  
</a>

**Note**: We have added border: 0 to prevent IE9 (and earlier) from displaying a border around the image.

**Image Maps**

For an image, you can create an image map, with clickable areas:

**Example**

<img src="planets.gif" alt="Planets" usemap="#planetmap" style="width:145px;height:126px">  
<map name="planetmap">  
  <area shape="rect" coords="0,0,82,126" alt="Sun" href="sun.htm">  
  <area shape="circle" coords="90,58,3" alt="Mercury" href="mercur.htm">  
  <area shape="circle" coords="124,58,8" alt="Venus" href="venus.htm">  
</map>

**Image Floating**

You can let an image float to the left or right of a paragraph:

**Example**

<p>  
  <img src="smiley.gif" alt="Smiley face" style="float:left;width:42px;height:42px">  
  A paragraph with an image. The image floats to the left of the text.  
</p>

**PART 2 LINKS**

Links are an important feature of the World Wide Web. They allow you to skip from one page to another or within a page. You can link to music, movies or download files with FTP. Links are found in nearly all web pages. Links allow users to click their way from page to page or within a page.

**3 Parts of a Link:**

1. Destination – Most important part that allows you to link to other web pages or inside the page itself.
2. Label – Visitor sees and clicks on to reach the destination.
3. A Target – determines where the destination will be displayed.(Named window, frame, new window)

**Create a Link to another Web Page**

To create a link you must use the <a href = “page.html”> </a> tags. **href** - stands for *hypertext reference.*

**page.html** represents an html webpage or URL address of a web page. The “a” stands for *anchor*.

**Terms:**

**http** – Hyper Text Transfer Protocol which is a way computers moves data back and forth. A protocol used to request and transmit files, especially webpages and webpage components, over the Internet or other computer network.

**https** – Hyper Text Transfer Protocol Secured - is a [communications protocol](http://en.wikipedia.org/wiki/Communications_protocol) for [secure](http://en.wikipedia.org/wiki/Network_security) communication over a [computer network](http://en.wikipedia.org/wiki/Computer_network), with especially wide [deployment](http://en.wikipedia.org/wiki/Software_deployment) on the [Internet](http://en.wikipedia.org/wiki/Internet). Technically, it is not a protocol in and of itself; rather, it is the result of simply [layering](http://en.wikipedia.org/wiki/OSI_model) the [Hypertext Transfer Protocol](http://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol) (HTTP) on top of the [SSL/TLS](http://en.wikipedia.org/wiki/Transport_Layer_Security) protocol, thus adding the security capabilities of SSL/TLS to standard HTTP communications. The main motivation for HTTPS is to prevent [wiretapping](http://en.wikipedia.org/wiki/Wiretapping) and [man-in-the-middle attacks](http://en.wikipedia.org/wiki/Man-in-the-middle_attack).

**Examples:**

<a href = “http://www.site.com/directory/page.html”> Click Here</a> - Creates a link called Click Here that will take them to site.com.

<a href = “page.html> click here for next page</a> Creates a link to another page within the current website directory.

**\*\*\*Note:** It is a good idea to use lowercase url’s because some servers are case sensitive.

**HTML Links - Hyperlinks**

HTML links are hyperlinks.

A hyperlink is an element, a text, or an image that you can click on, and jump to another document or within a webpage.

**HTML Links - Syntax**

In HTML, links are defined with the <a> tag:

**Link Syntax:**

<a href="*url*">*link text*</a>

**Example:**

<a href="http://www.example.com/html/">Visit our HTML tutorial</a>

The **href** attribute specifies the destination address (http://www.example.com/html/)

The **link text** is the visible part to the user.

Clicking on the link text, will send you to the specified address or location.

**Note:** The link text does not have to be text. It can be an HTML image or any other HTML element.

**Local Links**

The example above used an absolute URL (A full web address).

**Example:**

(http://www.example.com/html

A local link (link to the same web site) is specified with a relative URL (without http://www....).

**Example:**

<a href="html\_images.asp">HTML Images</a>

**HTML Links - Colors and Icons**

When you move the mouse cursor over a link, two things will normally happen:

* The mouse arrow will turn into a little hand
* The color of the link element will change

By default, links will appear as this in all browsers:

* An unvisited link is underlined and blue
* A visited link is underlined and purple
* An active link is underlined and red

You can change the defaults, *using styles CSS which will be discussed later:*

**Example**

<style>  
a:link    {color:#000000; background-color:transparent; text-decoration:none}  
a:visited {color:#000000; background-color:transparent; text-decoration:none}  
a:hover   {color:#ff0000; background-color:transparent; text-decoration:underline}  
a:active  {color:#ff0000; background-color:transparent; text-decoration:underline}  
</style>

**HTML Links - The target attribute**

The **target** attribute specifies where to open the linked document.

This example will open the linked document in a new browser window or in a new tab:

**Example**

<a href="http://www.example.com/" target="\_blank">Visit Us!</a>

|  |  |
| --- | --- |
| **Target Value** | **Description** |
| \_blank | Opens the linked document in a new window or tab |
| \_self | Opens the linked document in the same frame as it was clicked (this is default) |
| \_parent | Opens the linked document in the parent frame |
| \_top | Opens the linked document in the full body of the window |
| *framename* | Opens the linked document in a named frame |

If your webpage is locked in a frame, you can use target="\_top" to break out of the frame:

**Note:** *Frames will be discussed later*.

**Example**

<a href="http://www.example.com/html/" target="\_top">HTML tutorial!</a>

**HTML Links - Image as Link**

It is common to use images as links:

**Example**

<a href="default.asp">  
  <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0">  
</a>

**Note:** border:0 is added to prevent IE9 (and earlier) from displaying a border around the image.

**HTML Links - The id Attribute**

The id attribute can be used to create bookmarks inside HTML documents.

Bookmarks are not displayed in any special way. They are invisible to the reader.

**Example**

Add an id attribute to any <a> element:

<a id="tips">Useful Tips Section</a>

Then create a link to the <a> element (Useful Tips Section):

<a href="#tips">Visit the Useful Tips Section</a>

Or, create a link to the <a> element (Useful Tips Section) from another page:

<a href="http://www:URL">Visit the Useful Tips Section</a>

**Note:** Without a trailing slash on subfolder addresses, you might generate two requests to the server.  
Many servers will automatically add a slash to the address, and then create a new request.

**BASE tag <base>**

Specify a default URL and a default target for all links on a page:

<head>  
<base href="http://www.urlname.com/images/" target="\_blank">  
</head  
<body>  
<img src="stickman.gif" width="24" height="39" alt="Stickman">  
<a href="http://www.urlname.com">Location</a>  
</body>

**Definition and Usage**

The <base> tag specifies the base URL/target for all relative URLs in a document.

There can be at maximum one <base> element in a document, and it must be inside the <head> element.

**Tips and Notes**

Tip: Put the <base> tag as the *first* element inside the <head> element, so that other elements in the head section uses the information from the <base> element.

**Note:** If the <base> tag is present, it must have either an href attribute or a target attribute, or both.

**Attributes**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Value** | **Description** |
| href | *URL* | Specifies the base URL for all relative URLs in the page |
| target | \_blank \_parent \_self \_top *framename* | Specifies the default target for all hyperlink |

**LAB**

1. Create an HTML document
2. Find an URL address of a website that you like and an image.
3. In the Body Section type the following;

**<a href = “http://www.URL address”> Click here</a> <br/>**

**<a href = “http://www.URL address”> <img src = “image.gif or jpg”></a> <br/>**

1. Save and View

**PART 2 Linking with in a document**

1. Add to the current document.
2. Insert a couple of <br/> tags
3. Type the following. Go online line and copy and paste several paragraphs to insert into document.

<br/>

<br/>

I’m at the top of the document. <a href = “#bottom”> Take me to the bottom</a>

1. **Insert the several paragraphs that you copied here.**

<a name = “bottom”> I’m at the bottom</a>

</body>

1. Save and View

**Questions and Discovery**

1. Do you think you can go from the bottom to the top? ***Try it!***
2. List the advantages that you can think of for linking within a document.
3. What is the purpose of the name attribute?
4. What is the difference between http & https?
5. What is the purpose of the id & name attribute?

## Chapter Summary

* Use the HTML **<img>** element to define images
* Use the HTML **src** attribute to define the image file name
* Use the HTML **alt** attribute to define an alternative text
* Use the HTML **width** and **height** attributes to define the image size
* Use the CSS **width** and **height** properties to define the image size (alternatively)
* Use the CSS **float** property to define image floating
* Use the HTML **usemap** attribute to point to an image map
* Use the HTML **<map>** element to define an image map
* Use the HTML **<area>** element to define image map areas
* Use the HTML **<a>** element to define a link
* Use the HTML **href** attribute to define the link address
* Use the HTML **target** attribute to define where to open the linked document
* Use the HTML **<img>** element (inside <a>) to use an image as a link
* Use the HTML **id** attribute (id=*value*) to define bookmarks in a page
* Use the HTML **href** attribute (href="#*value"*) to address the bookmark